FIG. 1

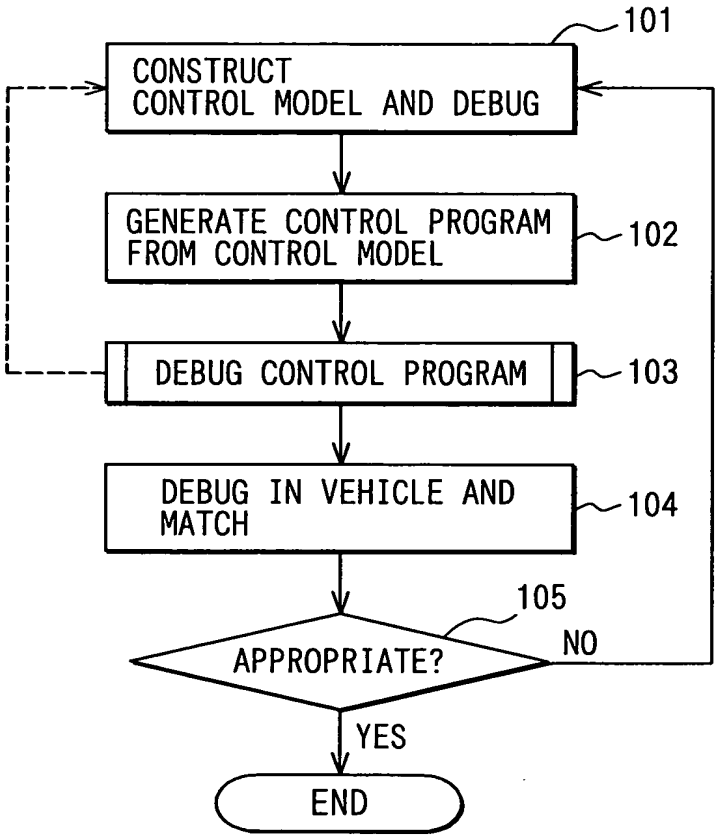

101
CONSTRUCT CONTROL MODEL AND DEBUG
GENERATE CONTROL PROGRAM FROM CONTROL MODEL
102
DEBUG CONTROL PROGRAM
103
DEBUG IN VEHICLE AND MATCH
104
105
APPROPRIATE?
NO
YES
END

FIG. 2

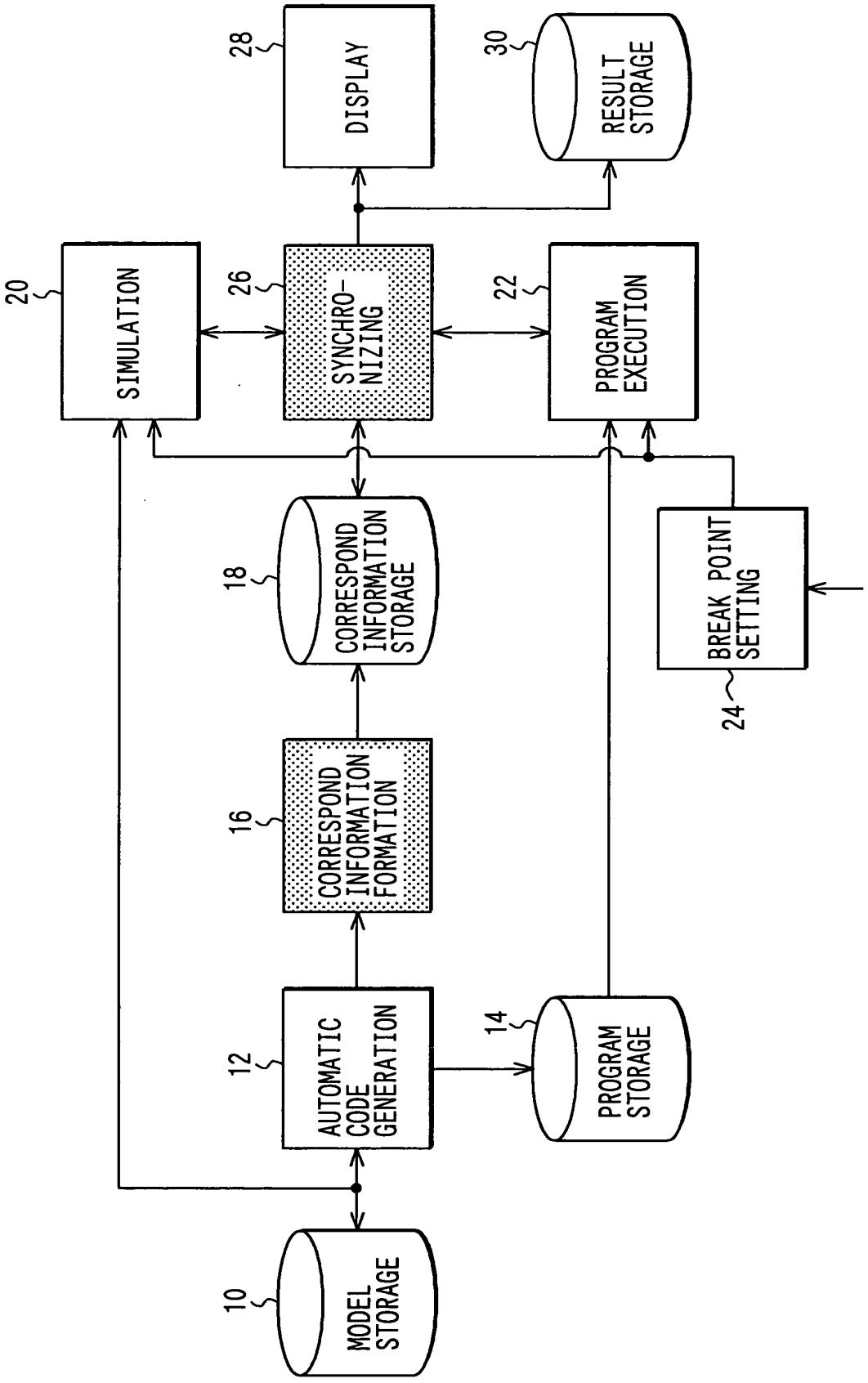

MODEL STORAGE
10
AUTOMATIC CODE GENERATION
12
PROGRAM STORAGE
14
CORRESPOND INFORMATION FORMATION
16
CORRESPOND INFORMATION STORAGE
18
BREAK POINT SETTING
24
SIMULATION
20
SYNCHRO-NIZING
26
PROGRAM EXECUTION
22
DISPLAY
28
RESULT STORAGE
30

FIG. 3

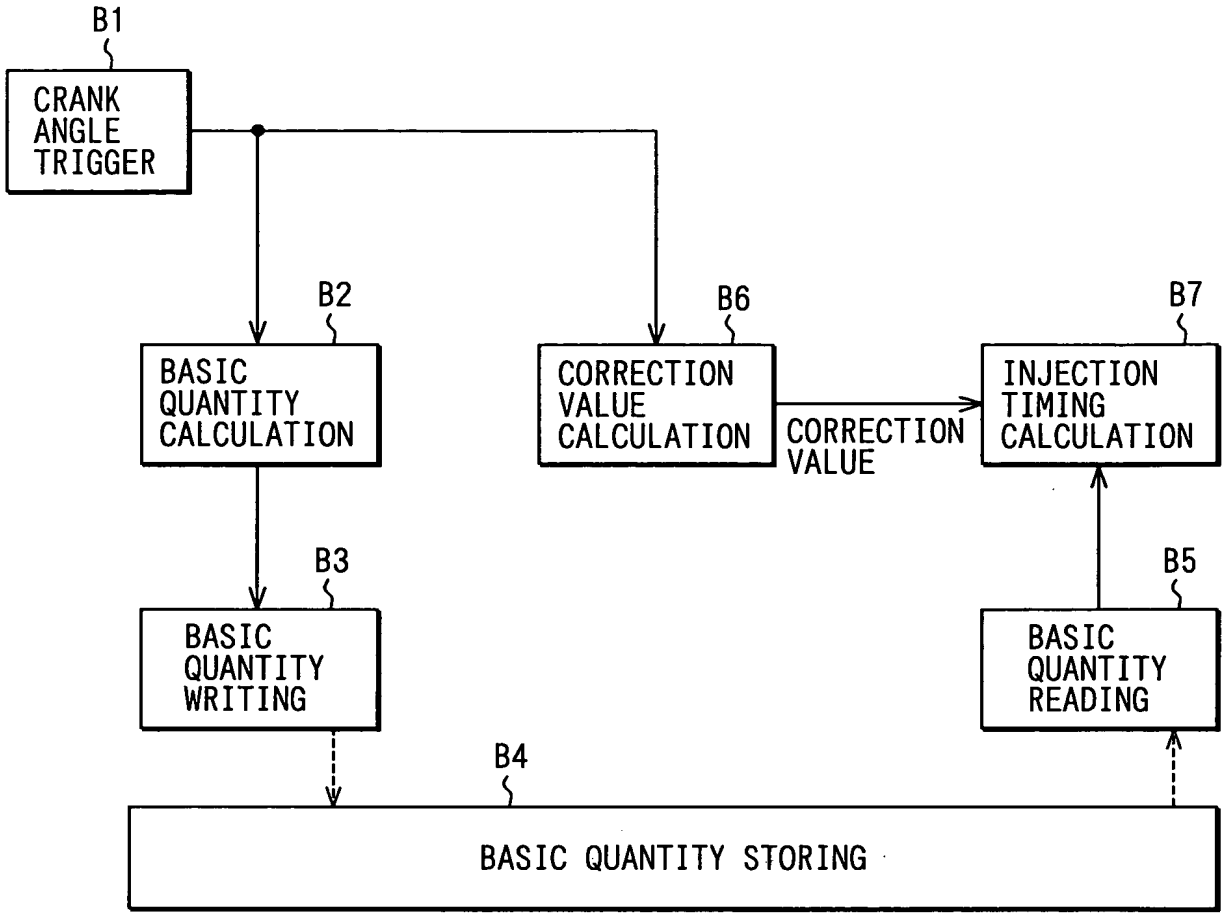


FIG. 4

```
L1 :
  //BASIC QUANTITY CALCULATION (B2)
  v1←. . . ;
L3 :
  //CORRECTION VALUE CALCULATION (B6)
  v2←. . . ;
L4 :
  v3←read (m1) ; //BASIC QUANTITY READING (B5)
L5 :
  //INJECTION TIMING CALCULATION (B7)
  v4←. . . (v2, v3) ;
L2 :
  write (m1, v1) ; //BASIC QUANTITY WRITING (B3)
```

FIG. 5

EXECUTION POSITION CORRESPONDENCE INFORMATION		VARIABLE CORRESPONDENCE INFORMATION	
BLOCK	LABEL	BLOCK CONNECT/STORAGE	VARIABLE
CRANK ANGLE TRIGGER (B1)			
BASIC QUANTITY CALCULATION (B2)	L1	BASIC QUANTITY	v1
BASIC QUANTITY WRITING (B3)	L2	BASIC QUANTITY	v1
		BASIC QUANTITY STORING	m1
CORRECTION VALUE CALCULATION (B6)	L3	CORRECTION VALUE	v2
BASIC QUANTITY READING (B5)	L4	BASIC QUANTITY	v3
		BASIC QUANTITY STORING	m1
INJECTION TIMING CALCULATION (B7)	L5	CORRECTION VALUE	v2
		BASIC QUANTITY	v3
		INJECTION TIMING	v4

FIG. 6

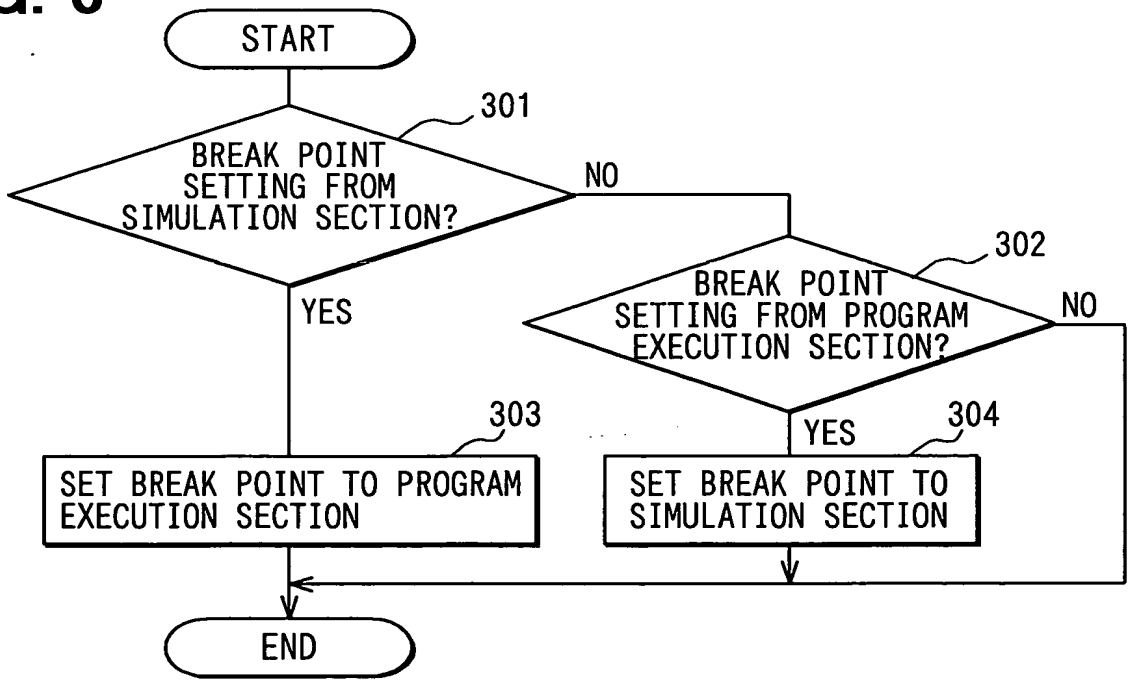


FIG. 7

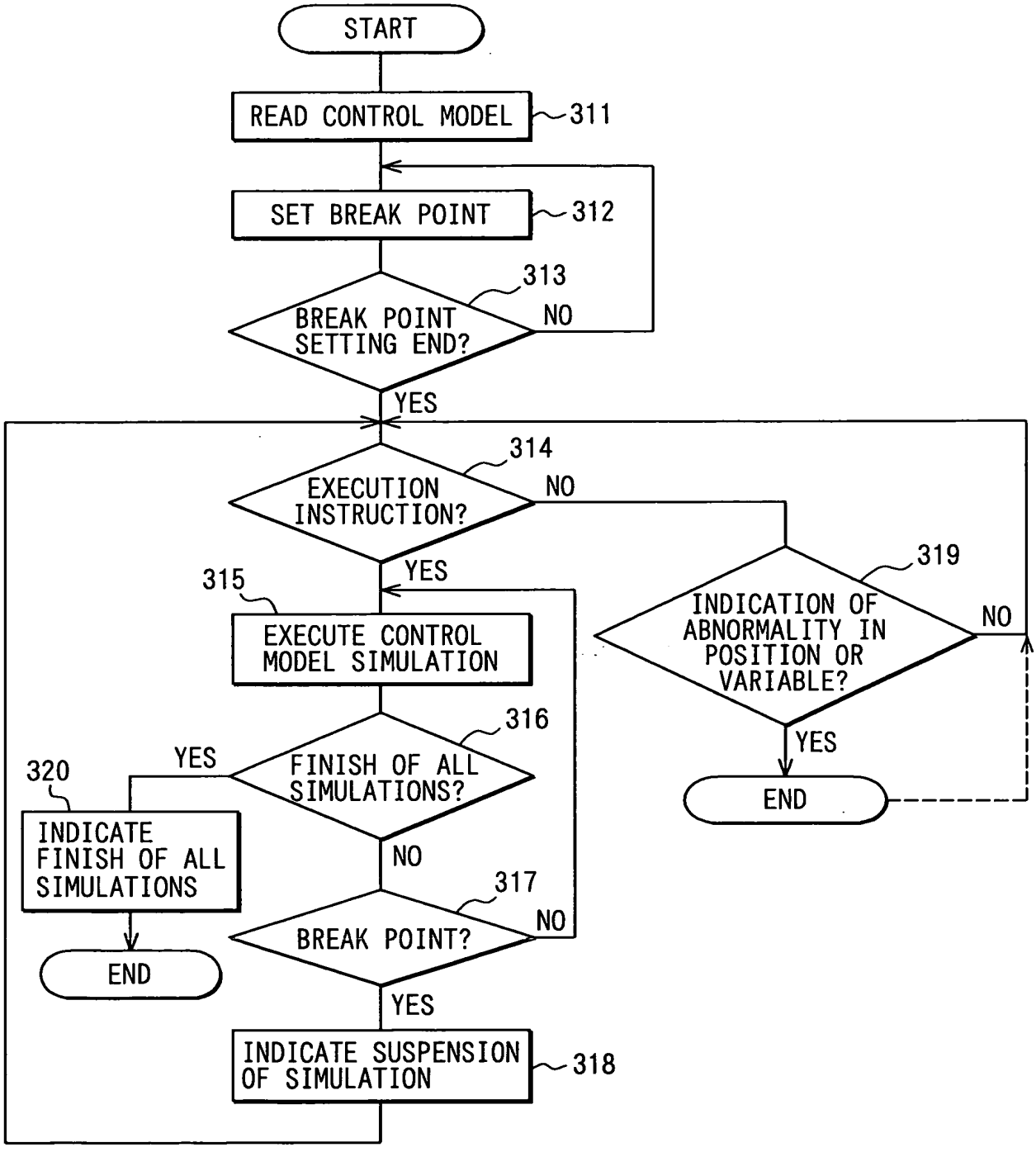

START
READ CONTROL MODEL
311
SET BREAK POINT
312
313
BREAK POINT SETTING END?
NO
YES
314
EXECUTION INSTRUCTION?
NO
YES
315
EXECUTE CONTROL MODEL SIMULATION
316
FINISH OF ALL SIMULATIONS?
YES
320
INDICATE FINISH OF ALL SIMULATIONS
END
NO
317
BREAK POINT?
NO
YES
INDICATE SUSPENSION OF SIMULATION
318
319
INDICATION OF ABNORMALITY IN POSITION OR VARIABLE?
NO
YES
END

FIG. 8

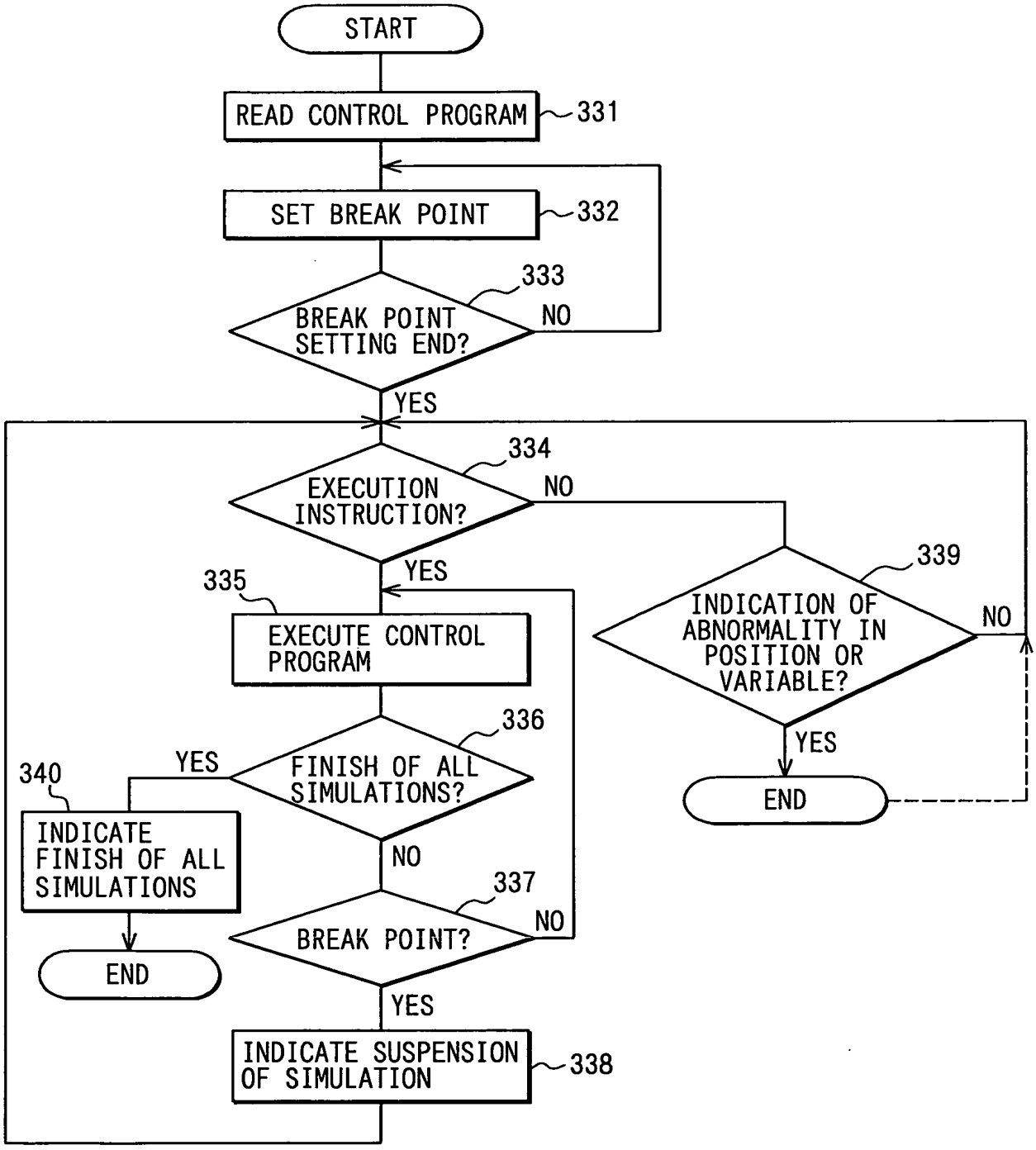
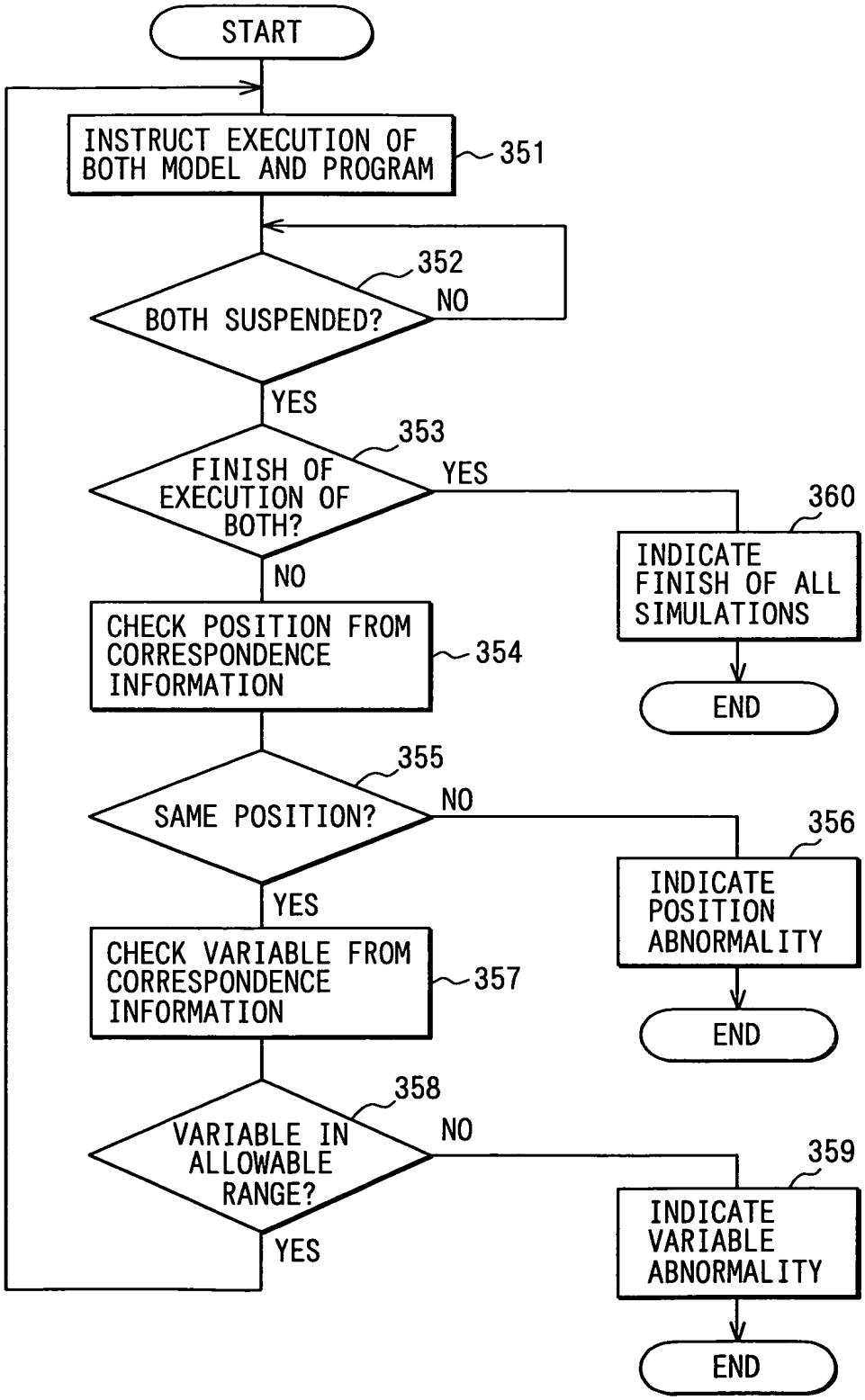

START
READ CONTROL PROGRAM
331
SET BREAK POINT
332
333
BREAK POINT SETTING END?
NO
YES
334
EXECUTION INSTRUCTION?
NO
YES
335
EXECUTE CONTROL PROGRAM
339
INDICATION OF ABNORMALITY IN POSITION OR VARIABLE?
NO
YES
END
336
FINISH OF ALL SIMULATIONS?
YES
340
INDICATE FINISH OF ALL SIMULATIONS
END
NO
337
BREAK POINT?
NO
YES
INDICATE SUSPENSION OF SIMULATION
338

FIG. 9


START
INSTRUCT EXECUTION OF BOTH MODEL AND PROGRAM
351
352
BOTH SUSPENDED?
NO
YES
353
FINISH OF EXECUTION OF BOTH?
YES
360
INDICATE FINISH OF ALL SIMULATIONS
END
NO
CHECK POSITION FROM CORRESPONDENCE INFORMATION
354
355
SAME POSITION?
NO
356
INDICATE POSITION ABNORMALITY
END
YES
CHECK VARIABLE FROM CORRESPONDENCE INFORMATION
357
358
VARIABLE IN ALLOWABLE RANGE?
NO
359
INDICATE VARIABLE ABNORMALITY
END
YES